



## DEVELOPMENT AND ANALYSIS OF BUSINESS MODELS IN THE SOUTH AFRICAN MOTOR BODY REPAIR SECTOR

G. Muyengwa<sup>1\*</sup>, P. Dube<sup>2</sup> and K. Battle<sup>3</sup>

<sup>1</sup>Department of Mechanical and Industrial Engineering Technology,  
University of Johannesburg, South Africa

[gmuyengwa@uj.ac.za](mailto:gmuyengwa@uj.ac.za)

<sup>2</sup>Department of Mechanical and Industrial Engineering Technology,  
University of Johannesburg, South Africa

[partsond@uj.ac.za](mailto:partsond@uj.ac.za)

<sup>3</sup>Department of Mechanical and Industrial Engineering Technology,  
University of Johannesburg, South Africa

[kbattle@uj.ac.za](mailto:kbattle@uj.ac.za)

### ABSTRACT

Every enterprise makes use of a business model either explicitly or implicitly. A business model is an abstract of a business plan and is complimentary to the firm's business strategy. It shows linkages within a business process as it transforms inputs into outputs, and how the enterprise creates and delivers value to its customers. Through a case study research two business models used by South African auto-body repairers were developed and analysed. One is for auto-body repair shops that are recognised by the South African Insurance Association, the panel system, and the other is not. The business models are presented as causal loop diagrams. Design parameters used to describe the architecture were content, structure, governance and complementarities. These business models were used to explain low margins experienced in this sector. The business model helps small enterprise entrepreneurs, stakeholders in the automotive sector and policy makers to understand the logic of auto-body repair shops.

Keywords: Business model, business plan, business strategy, entrepreneurs and panel system.

---

\* Corresponding Author

## 1 INTRODUCTION

This paper contributes to the understanding of business activities of Small, Medium and Micro Enterprises (SMMEs) in the motor body repair (MBR) sector. The research is sector specific as advocated by the Government White Paper on SMMEs [1]. Motor body repairers have raised business concerns, which include the need to be registered by the South African Motor Body Repair Association, (SAMBRA), South African Insurance Industry, (SAIA), and certification by Original Equipment Manufacturers (OEMs), called the panel system, as a condition of getting work from the insurers, MTAA [2], SAMBRA [3], Motoring South Africa [4], and these concerns are not unique to South Africa as shown in table 1 below.

**Table 1: Business Concerns in the Motor Body Repair sector**

Country	Business Concerns in the Motor Body Repair sector
United Kingdom	Insurers provide about 85 % of the work, control repair times and costs, including labour rates; consumers have no choice, late payments.
Australia	Insurers provide most of the work, controls repair times and labour rates, consumers have no choice of a repairer.
South Africa	Insurers provide most of the work, set up a panel system, controls part margins, labour rates, late payments, supply network; customers have no choice of a repairer.

Other problems faced by SMMEs in general include, poor infrastructure, lack of financing, poor planning, Ntsika, [5], Harper ,[6], lack of marketing, under capitalisation and poor perception from the public, lack of business growth and sustainability, Berry et al, [7].

The relationship between the South African Insurance Association, (SAIA), auto-body repairers and customers (motorists) will be characterised and analysed through case study research and the development of business models, Chesbrough, [8], Zott et al [9], Magaretta [10], Osterwalder et al [11], Lambert [12], Salvendy [13]. A business model can be used either to understand customers, suppliers, competitors' business models or as a communication tool, [8], as a unit of analysis, Linder et al [14]. Business model concept is built on ideas from the theoretical and conceptual frameworks of entrepreneurship, economic, marketing, finance, business strategy and operations, Amit et al [15], Morris et al [16], Zott et al [17] and systems engineering, [13].

The outcomes of this research are expected to be SMME sector specific, a comprehension of business activities, and an explanation of how motor body repairers end up with low margins. This in turn will assist authorities in the formulation of enterprise development needs and SMME policies. The paper also contributes to the theoretical constructs of business model research.

### 1.1 Objectives

This paper has the following objectives:

1. To develop two distinct business models used by SMMEs operating in the South African motor body repair sector.
2. To develop and compare two distinct business models followed in this sector.
3. To explain the reasons for low margins experienced in this sector.

## 2 LITERATURE REVIEW

### 2.1 SMMEs operating in the motor body repair sector

The global importance of small businesses in any country were summarised by Kroon and Moolman, [18], as: “Small businesses are multitudinous, suppliers of employment and creators of work opportunities, innovators and initiators, sub-contractors for large organisations, responsible for the manifestation of the free market system and an entry point into the business world”. SMMEs promotes a flexible, innovative and competitive economic structure, Van der Waal [19]; better customer service, lower cost and filling of isolated niches, Boone and Kurtz [20]

South Africa has on its agenda a set of well-defined goals that it would like to achieve, including poverty and inequality reduction and creation of the much needed employment, Todaro [21]. The Government has set up several initiatives that support small businesses like the Local Economic Development programmes, Rogerson [22], establishment of small business incubators, Rogerson [23] and the National Strategy Framework for the development of small businesses, Chalera [24].

The South African motor body repair sector is characterised by SMMEs and their activity profiles are shown in table 2 below. NAAASP and SAARSA argue that the insurance system of preferred panel-beaters and towing companies prejudices them of work and does not give consumers a choice, [2], [4].

**Table 2: Membership and Activity Profiles of the MBR sector Representatives**

MBR Body	Membership	Activity
SAMBRA-South African Motor Body Repair	1000	Registered SMMEs and recognized by the South African Insurance Industry through the panel system
NAAASP-National Association of African Automobile Service Providers.	1400	More of the informal sector scattered throughout the South African Townships. Most of their work is not from the insurance industry.
SAARSA-South African Automobile Recovery and Salvage Association	200	Most of its members are based in Cape Town, and most of their work is not from the insurance industry.

SMME in the motor body repair sector’s major activity is the repair of motor vehicle bodies. These vehicles would have suffered collision damage or vandalism. Collision damage is usually caused by accidents which are an unusual event for most motorists. The shock and trauma motorists experience due to accidents are made worse by the need to pay the excess, the loss of no bonus claim and the loss of one’s vehicle sometimes for a very long period, [2]. In most cases the vehicle ends up out of the owner’s control, but with the insurance company, towing, assessors and repairers.

### 2.2 Business Model

Zott [9], established common themes and definitions among researchers of business models which included; a business model is used as a new unit of analysis, [15], business models emphasize a system-level holistic approach towards explaining how firms do business Osterwalder [25]; it is centred on a focal organisation, Shafer et al [26]; but its boundaries

are wider than those of the organisation, Brink et al [27]; and business models seek to explain how value is created and captured, Mitchel et al [28] Vlaar et al [29] and Graf [30] From literature, major business model components covered include, value proposition, market segment, value chain structure, revenue generation and margins, Chesborough [31]; Bell et al [32]; Lambert [33]; capabilities and competencies,[26]. Every value activity “employs purchased inputs, human resources, technology and information”, Rasmussen [34]. The business model adopted for this study was proposed by [11] and has nine building blocks as shown in figure 1 below.

<b>Key Partners</b> (Who are our key Partners, suppliers,)	<b>Key Activities</b> What are your key activities)	<b>Value Proposition</b> (Value delivered to Customers, Which Customer problems are We solving, which Customer needs are we Satisfying, Bundle of Products and services Are we offering)	<b>Customers Relationships</b> (Type of relationships, Which ones are established, How costly are they, How are they integrated with the rest of our business model)	<b>Customer Segments</b> (For whom are we creating value, Most Important customer)
	<b>Key Resources</b> (What are the resources Required by your value Proposition)		<b>Channels</b> (Channels for customer Segments, Integrated Channels, Which channel Work better, Cost Effective channel)	
<b>Cost Structures</b> (Important costs, Expensive resources, Expensive activities)			<b>Revenue Streams</b> (Value customers willing to pay, What do they currently pay, How are they paying, How much does each revenue stream contribute to overall revenue)	

Figure 1: The Business Model Canvas, Source, Adapted from Osterwalder et al [11]

### 2.2.1 Business Model Content, Structure, Governance and Complimentaries

Design parameters that are used in business modelling using the activity system include content, structure, governance and complimentaries, [9]. Content involves goods or information exchanged, resources and capabilities required. SMMEs on the panel system have advanced equipment and technology, can carry out advanced and multiple repairs including specialised spray painting. Structure describes how activities are interlinked and highlights both the core and supporting ones, [9]. The parties that are involved include insurers who are in charge of the panel system, Assessors, Original Equipment Manufacturers (OEMs), Original Equipment Suppliers (OES) and motorists. Governance relates to the control of resources, how information flows, and indicates who performs the activities, Casadesus-Masanell [35]. In this sector the insurers dictates where the car is repaired, including control of labour rates and margins on parts. Day to day management of activities in these workshops is the prerogative rights of SMME owners. The theoretical antecedents of these parameters are organisation theory, strategy theory, the resource based view and strategy process perspectives, Headman et al [36].

### 2.3 Programme Logic Model

A logic model is a graphical depiction of a process. It communicates the interlinked activities. The elements of a logic model are shown in figure 2 below. The model helps to identify critical business activities undertaken in the motor body repair sector.

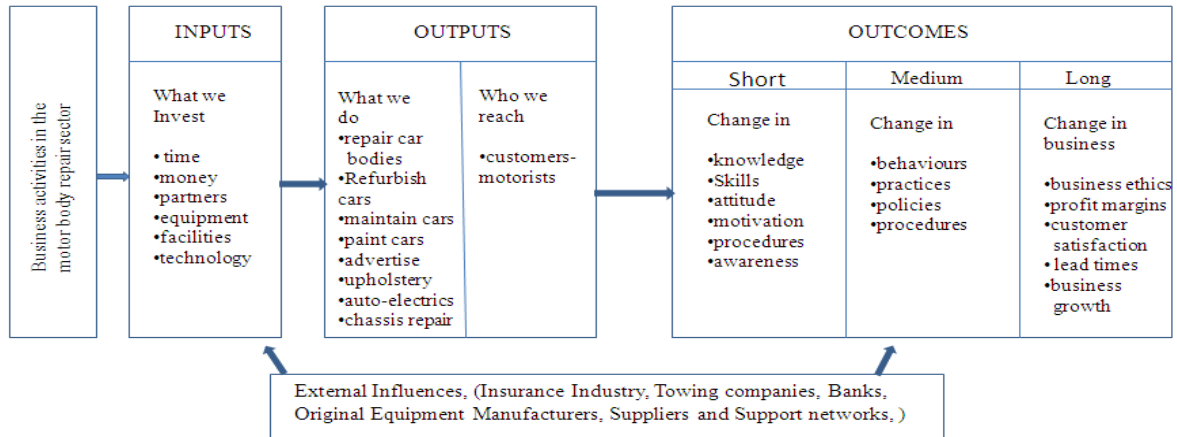


Figure 2: Elements of the Logic Model, adapted from McLaughlin et al [37]

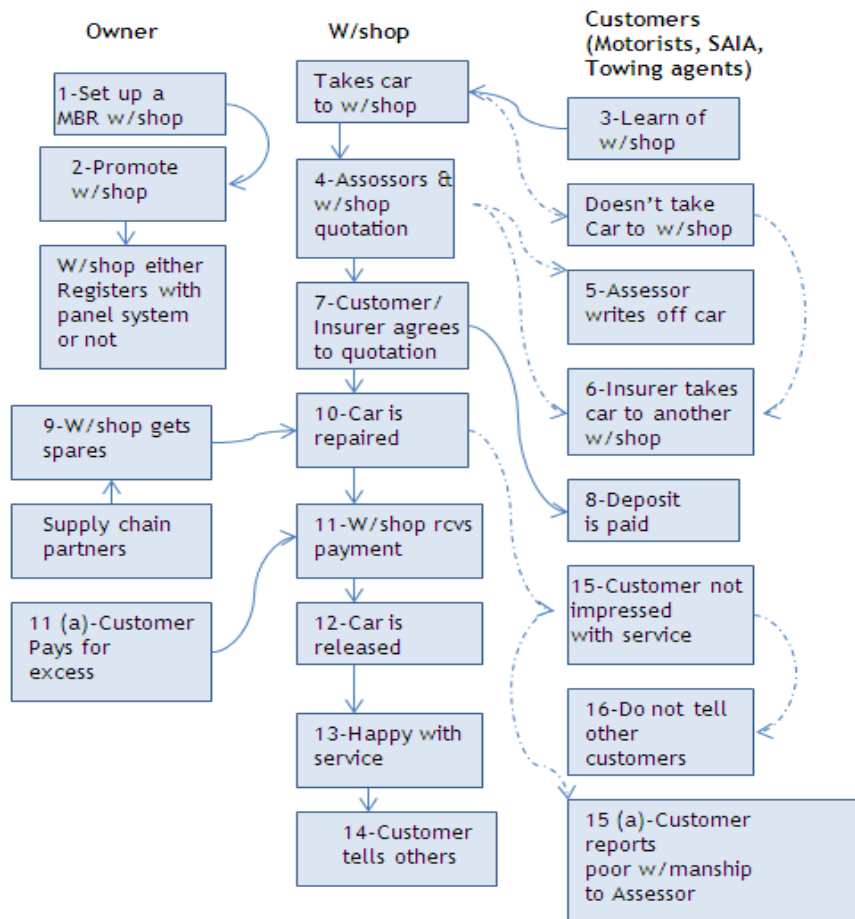
### 3 METHODOLOGY

Multiple case study research was carried out on ten motor body repair shops, five are on the panel system and the other is not. The aim of the study was to, “explore, describe, explain and compare”, Yin [38], their business activities. Case studies focus on one’s instance relationships and processes in a natural setting, Descombe [39]. Case studies in business and management research offers opportunities for investigating and comprehending exclusive and different enterprises, with difficult and dynamic events and processes, Eriksson et al [40], as those found in the motor body repair sector. The case study research was conducted through interviews, observations, analysis of business documents and a structured questionnaire, Floyd et al, [41]. The business model approach was chosen to address and solve lack of knowledge on how SMMEs in this sector conducts their business, as is done with other models found in economics and management, Baden-Fuller and Morgan [42] 2010. Multiple case studies enable comparison of results, Martinez, et al [43].

### 4 BUSINESS MODELS FOUND IN THE MOTOR BODY REPAIR SECTOR

A generic business model for this sector together with the evaluation framework was developed as shown in figure 3 below. The business model has a list of activities on the part of the business owner and the customer. The model shows the likely sequence to be followed and this is shown as a flowchart. A set of indicators or metrics for measuring the linkages is shown in the evaluating framework, Appendix 1. The business model below is a simplified version which shows only one type of offering. A realistic model will have multiple sequences, with multiple paths and branching. This can only be represented by several linked diagrams. The simplified business model assists the business owner to adapt a model that suits the business customer environment.

The business model below is based on the process of exchange of information; is displayed in a graphical form; with modular format; has a step-by-step evaluation like a program logic model and it enables the assessment of positive feedback loops. Tools such as Customer Relationship Management (CRM) can also be used to track customer satisfaction levels. The left hand column shows activities of the owner, the middle column shows activities done in the workshop and the left column shows activities done by the customers. The dashed arrows show the negative actions that affect the business. The evaluating framework that can be built into the model is shown in Appendix 1.



**Figure 3: Business Model representation for the Motor Body Repair sector**

From case study information causal loop diagrams, [35], representing two different business models found in this sector were developed as shown in figure 3 and 4 below. The major boxes show rigid consequences, the bold and underlined shows choices and the other link shows flexible consequences. Choices are the business’ strategic position. Rigid consequences can only be changed by changing the strategic position of the business, whereas flexible consequences can be easily altered. Main differences on choices done by SMMEs in this sector are shown in table 4 below.

**Table 4: The Main Differences on Choices done by SMMEs in this sector, [9], [35]**

<b>SMMEs on the Panel System</b>	<b>SMMEs not on the Panel System</b>
Investment in infrastructure and specialised Equipment from OES	Limited infrastructural investments
Certified by OEMs and registered by SAMBRA	Not certified by OEMs and not registered by SAMBRA
Have contracts with Insurers and Towing Agents	No contracts with insurers and Towing Agents
Can do advanced and multiple repairs	High levels of referral work to other workshops
Repairs most cars that are well insured or still on warranty	Repairs most cars that are poorly insured and of low value

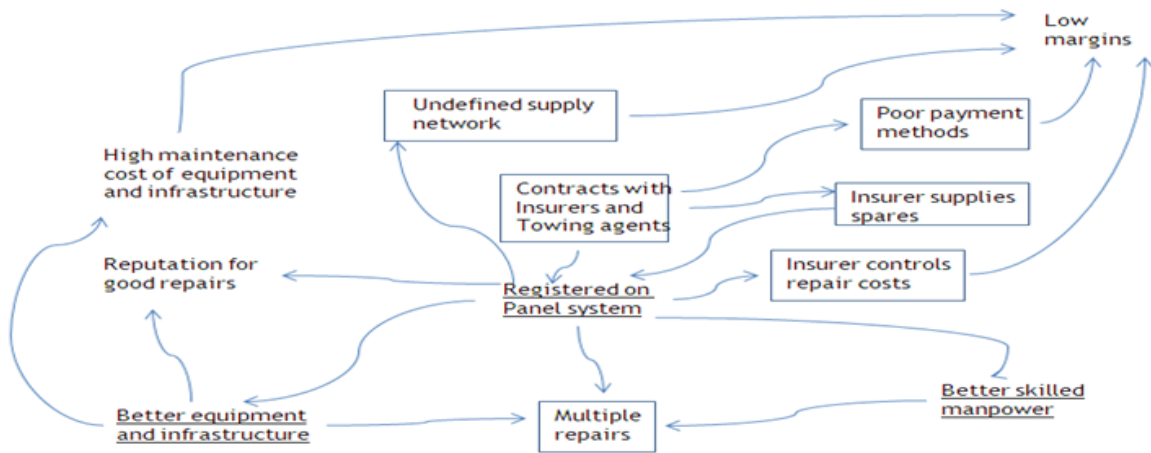


Figure 4: Simplified Business Model for SMMEs on Panel System, [35]

#### 4.1 Discussion

A registered panel has skilled workers who carry out repairing activities as shown in figure.... below and it excludes administrative and support staff. Employees under a registered panel enjoy benefits that are contributed by their employer such as Unemployment Insurance Fund (UIF), Provident Fund and Medical Aid. These workers also pay tax. These benefits are not found in unregistered panel shops.

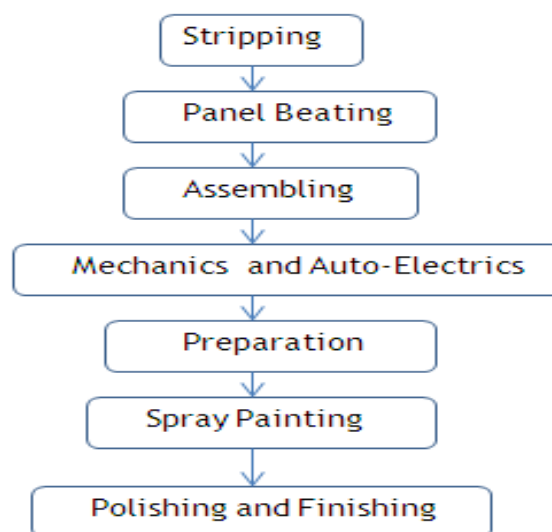
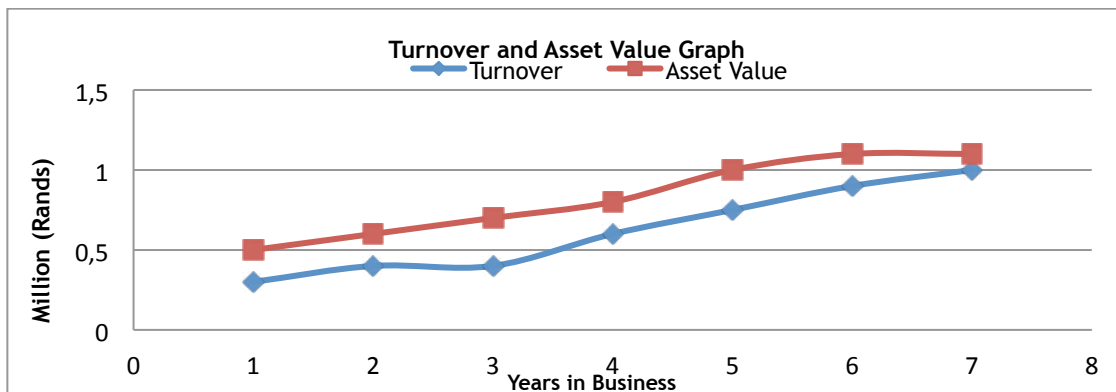


Figure 5: Sequence of Repairing Activities in a Registered Panel Shop

SMMEs on the panel system have better infrastructure, recommended equipment, and are recognised by OEMs. Majority of them can do all three grades of repairs and have contracts with both insurers and towing agents. Most of the cars they repair are either still on warranty or on full comprehensive cover. However these advantages do not translate to better profit margins because the insurers control sourcing of spares and dictates cost of repairs including labour rates, [2]. The other factors affecting their margins are cost of servicing loans for equipment procured, maintenance of equipment and late payments done by the insurers. Registration by SAMBRA can not be seen as a competitive strategy because one is not guaranteed of work and also one can not charge market related prices of labour and spares. The insurance industry controls cost of labour and margins that can be charged on spares. Being on the panel system can compliment business opportunities but does not translate tot high margins.

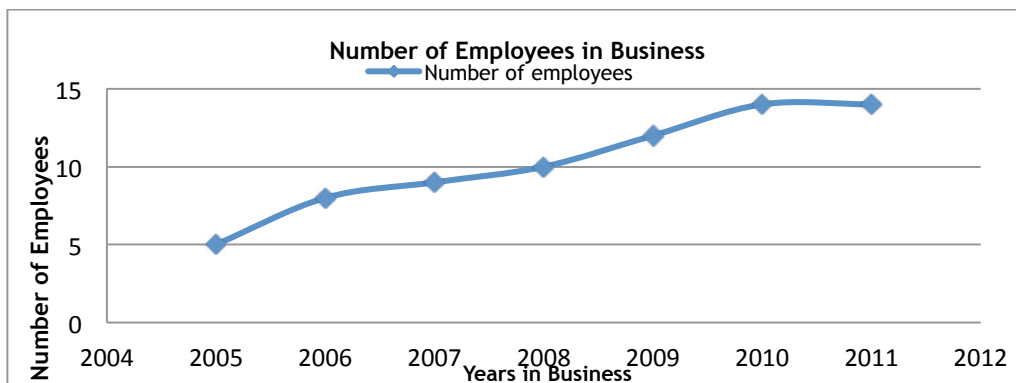
Type of equipment found in a registered panel shop include spray booth, chassis straightening machine (correct machine), arc and gas welding machines, vaccuum machines, drilling machines, correct chains and computers for mixing of paints. The correct machine comes in two standards manual and automatic ones.

The two graphs below show a trend that was evident in the three registered panel shops. The graphs show average turnover and asset value of the case studied panel shops. Turnover was seen to increase with Asset value increases. This was due to the fact that the panel shop becomes known as number of years in the business increases and also by being able to carry out all the three grades of repair. Nearby panel shops reguraly referred work to these panel shops because of superior equipment and skill.



Graph 1: Relationship between increase in Asset value and Turnover

The research also established that number of employees increased with an increase in number of years in business, indicating a direct response to increased business opportunities. However the increased number of employees attracts a higher labour cost factor that impacts on profit margins.



Graph 2: Increase of Number of Employees with Number of Years in Business



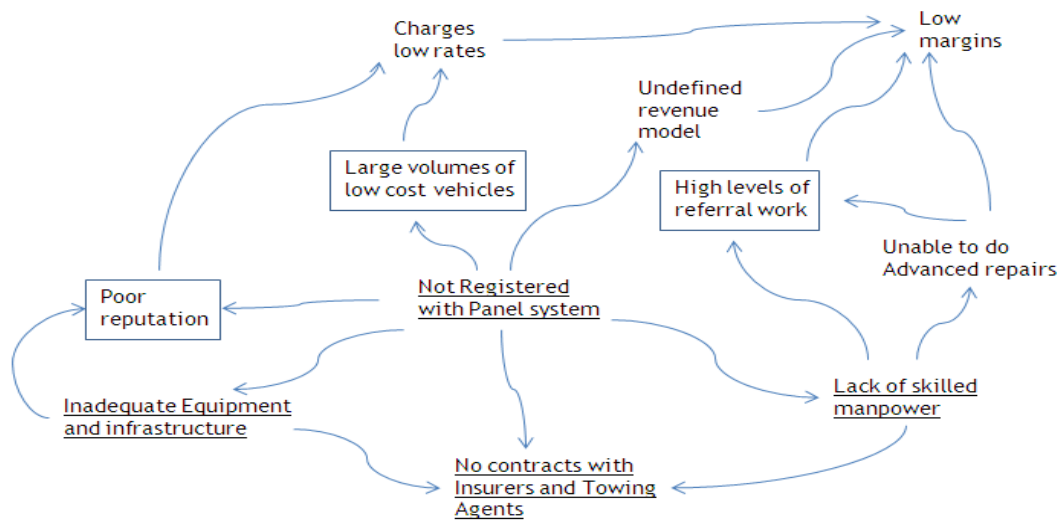


Figure 6: Simplified Business Model for SMMEs not on the Panel System, [35]

SMMEs not on the panel system have poor and inadequate equipment, poor premises; have no contracts with either towing agents or insurers. Majority of cars they repair are either under insured or not insured. They can not carry out multiple repairs, leading to high levels of referral work which leads to loss of revenue. Most of the manpower is not adequately skilled. Low margins arise from repairing low value vehicles, where charges are negotiated and do not match realistic economic factors. Methods of payment and debt collection are also poor, and they are losing on time value of money, signifying an undefined revenue model.

These two models have different value networks. SMMEs on the panel system interact with their customers and suppliers through the Insurer whereas SMMEs not on the panel system have a direct interaction with their customers and suppliers. Complimentaries found in both business models included in-house training of employees. However employees in a registered panel shop followed a structured training programme that would lead them to be trade tested and receives recognised qualification. Other complimentaries included aftermarket car services such as car servicing, whell balancing, selling of tyres, batteries and car washing.

SMMEs on the panel system had a high market share and better customer satisfaction, Hyvonen, [44]. Financial performance of these SMMEs was not obtained, majority of them do not have either a balance sheet or yearly financial reports, Crabtree et al, [45]. Business in the auto-body repair sector is seasonal, picking up during the rainy season, due to high accidents, and holiday times like December vacations.

### Limitations

The nature of SMME business activities made it difficult to make use of Performance Measurement Systems (PMS), as a unit of analysis. However internal and external aspects of PMS were looked into. On internal PMS the study looked into business operations and capabilities which covered training and equipment, this was evedent with registered panel shops. External PMS looked into stakeholder perspective on reputation and profit. While profit was difficult to establish, reputation was found to be high with registered panel shops. The other limitation was that few panel shops were studied and information on their working capital, income statements and cash flow data was difficult to obtain. Appropriation of value through the revenue model was not possible due to controls on pricing done by the insurance industry. A Du Pont analysis could not be done due to financial structures found in

these SMMEs. Data on capital structure, income statements, working capital and cash flow could not be verified. Panel shop owners were reluctant to share this information. Few panel shops were studied hence these results can not be generalised.

## 5 COCLUSION

The business logic of SMMEs in the motor body repair sector has been explained through business models. Business activities in this sector agree with business model theory of strategic choice and resource accumulation. Business model functions in this sector are value proposition, based on Resource Based View theory. Value is derived from strategic assets and core competencies. Registered panel shops have better infrastructure and skill and this inturn gives them higher turnover than those not registered. Ownership structure of registered panel shops was more of partnerships and this enabled accumulation of resources that gave them a better competitive advantage. Practices of the insurers and an undefined revenue model expalins low margins experienced in this sector.

## 6 REFERENCES

- [1] **Government White Paper on SMMEs.** 1995. <http://www.info.gov.za/whitepapers/1995/smallbus.htm>, last modified on 28 April 2008. (Accessed on 10 January 2011)
- [2] **Motor Trades Association of Australia, MTA**, 2004. <http://www.mtaa.com.au/documents/Productivity%20Commission%20-%20Smash%20Repair.pdf> (Accessed on 20 February 2012).
- [3] South African Motor Body Repair Association, SAMBRA, 2006. “*Memorandum to the South African Insurance Association, SAIA*” of 18 January 2006.
- [4] “**Panelbeaters threaten to dent transformation forum,**” Motoring South Africa, <http://www.motoring.co.za/index.php?fSectionId=&fArticle=4506188>, Accessed February 2010
- [5] **Ntsika Enterprise Promotion Agency.** 2001. Service Provider Directory for small, medium & micro enterprises. Pretoria: *Ntsika Enterprise Promotion Agency*
- [6] **Harper, M.** 1984, Small Business in Third World.Chinchestes. *John Wiley & Sons*
- [7] **Berry, A., von Blottnitz, M., Cassin, R., Kesper, A., Rajaratnam, B., and van Seventer, D.E.** 2002. The Economics of Small, Medium and Micro Enterprises in South Africa, *Trade and Industrial Policy Strategies, (TIPS)*. <http://www.tips.org.za/files/506.pdf>
- [8] **Chesbrough, H.,** 2006a, Open Innovation and Open Business Models: A New Approach to Industrial Innovation, Presentation to Joint OECD/ Dutch Ministry of Economic Affairs Conference on “*Globalisation and Open Innovation*”, Published on 6 December 2006
- [9] **Zott, C., and Amit, R.,** 2010.Designing your future business model: An activity system perspective, *Long Range Planning*, 43, pp. 216-226.
- [10] **Magretta, J.,** 2002, Why business models matter, *Havard Business Review*, 80, pp.3-8. <http://harvardbusinessonline.hbsp.harvard.edu>
- [11] **Osterwalder, A., Pigneur, Y. and Smith.A.** 2010. Business Model Generation, self published book.
- [12] **Lambert, S.C.,** 2010, A conceptual model analysis framework: Analysing and comparing business model frameworks and ontologies, Paper presented at the, 14<sup>th</sup> *IBIMA Conference*.



- [13] **Salvendy, G.**, 2001. Handbook of Industrial Engineering: Technology and Operations Management, 3<sup>rd</sup> Edition, John Wiley and Sons INC.
- [14] **Linder, J., and Cantrell, S.**, 2000. Changing Business Models: Surveying the Landscape, *Accenture Institute for Strategic Change*, pp 1-15
- [15] **Amit, R., and Zott, C.**2001.‘Value creation in e-business’,*Strategic Management Journal*, vol. 22. No 6/7, pp. 493-520
- [16] **Morris, M., Schindehutte, M., Richardson, J. and Allen, J.** 2006. ‘Is the business model a useful strategic concept? Conceptual, theoretical and empirical insights’. *Journal of Small Business Strategy*, vol. 17, no. 1, p. 27
- [17] **Zott. C. and Amit, R.** 2007. Business model design and the performance of entrepreneurial firms.*Organisation Science*, 18(2): pp 181-199
- [18] **Kroon, J. and Moolman, P.L.** 1992. Entrepreneurship, Potchesfstroom, Central Publishers, pp 129
- [19] **Wna Der Waal, J.W.H.**2001.Micro and Small enterprise development in Rural Tanzania. Sebokeng: Vista (Dissertation-M.Sc).
- [20] **Boone L.E. and Kurtz, D.L.** 2006.Contemporary Business.South West Publishers.
- [21] **Todaro, M.P.**1994.Economic Development, Longman Group Limited.London. p28
- [22] **Nel, E.L. and Rogerson, C.M.**2005 .Local Economic Development in the Developing World: The Experience of Southern Africa”, Transactions Press, New Brunswick. ISBN 0-7658-0249-X, 358 pp.
- [23] **Rogerson M.C.**2006. “The Market Development Approach to SMME Development: Implications for Local Government in South Africa, *Urban Forum*,Vol 17, Number 1/ January 2006, pp 54-78
- [24] **Chalera,** 2007. An Impact Analysis of South Africa’s national strategy for the development and promotion of SMME, PhD Thesis-University of Pretoria; AAT 0819487
- [25] **Osterwalder, A.** 2004.The business model ontology-A proposition in a design science approach.PhD Dissertaion 173, University of Lausanne, Switzerland.
- [26] **Shafer, S.M., Smith, H.J., and Linder, J.**2005.The power of business models, *Business Horizons*, 48, pp. 199-207
- [27] **Brink, J. and Holmen, M.** 2009.Capabilities and radical changes of the business models of new bioscience firms, *Changing Business Models of New Bioscience Firms*, 18(2), 109-120
- [28] **Mitchel, D. and Coles, C.**2003.The ultimate competitive advantage of continuing business model innovation.” *Journal of Business Strategy*, 24, pp. 15-21
- [29] **Vlaar, P., De Vries, P. Willenborg, M.**2005.Why incumbents struggle to extract value from new strategic options: Case of European Airline Industry.*European Management Journal*, vol 23, No. 2, pp. 154-169
- [30] **Graf, L.**2005.Incompatibilities of low-cost and network carrier business models within the same airline grouping. *Journal of air transport management* 11, pp 313-327
- [31] **Chesbrough, H.W., and Rosenbloom, R.S.**2002.The role of the Business Model in capturing value from Innovation: Evidence from Xerox Corporation’s Technology Spin-off companies, *Industrial and Corporate Change*, Volume 11, No. 3, pp. 529-555



- [32] **Bell. T., Marrs. F., Solomon. I. and Thomas.H.**1997. Auditing an Organisation Through Strategic-Systems Lens: *The KPMG Business Measurement Process*, KPMG, New York.
- [33] **Lambert,S.C.**2010b.Progressing business model research towards midrange theory building.Unpublished PhD,University of South Australia,Adelaide.
- [34] **Rasmussen, B.**2007, Business Models and the Theory of the Firm, Working Paper No. 32 on Pharmaceutical Industry Project, Centre for Strategic Economic Studies, Victoria University of Technology, Australia, and pp. 3
- [35] **Casadesus-Masanell, R., and Ricart, J.E.**2010.Innovation networks:"From technological development to business model reconfiguration,"*Technovation*,27,pp426-432.
- [36] **Headman, J. and Kalling, T.**2003, The business model concept: theoretical underpinnings and emperical illustrations.*European Journal of Information Systems*, 2003 issue 12, pp 49-59
- [37] **McLaughlin, J.A. and Jordan, G.B.**1999.Logic Models: a tool for telling your program's performance story.*Evaluation and Planning* 22:65-72
- [38] **Yin R.K.** 2003.Case study research: Design and methods 3<sup>RD</sup> ed. Thousand OAKS: Sage
- [39] **Denscombe M.** 2003, The Good Research Guide for small-scale social research projects, 2<sup>nd</sup> ed, London, Sage, ISBN 0 335 21303 0 pb
- [40] **Eriksson, P. and Kovalainen.**2009.Encyclopedia of Case Study Research.SAGE Publications.
- [41] **Floyd, J., and Fowler, J.** 2009.Survey Research Methods, 4<sup>th</sup> edition, London, Sage.ISBN 978-1-4129-5841-7
- [42] **Baden-Fuller, C. and Morgan, M.S.**2010.Business Models as Models.*Long Range Planning* 43 pp. 156-171
- [43] **Martinez, V., Kennerley, M., and Neely, A.**2008. Impact of PMS on Business performance: a methodological approach, Centre for Business Performance: Cranfield School of Management, UK
- [44] **Hyvonen, J.** 2007.Strategy, performance measurement techniques and information technology of the firm and their links to organisational performance. *Management Accounting Research*, 18(3), 343-366
- [45] **Crabtree, A.D., and DeBusk, G.K.**2008.The effects of adopting the balanced scorecard on shareholder returns. *Advances in Accounting*, 24(1), 8-15

**Appendix 1: Evaluating the Business Model, Stage by Stage**

Number	Stage	Unit	Data Sources
1	Create workshop	Cost (including time)	Company and financial records,
2	Promote workshop- advertise, bill-boards, pamphlets	Cost (including time)	Financial records
3	Learn of workshop- (Towing agents, motorists, insurance) Know of workshop but does not bring car for repair	Number of cars brought for repair Benchmark with local workshops	Record of cars repaired Benchmarking study results
4	Quotation	Cost to repair	Quotation records
5	Assessor writes car off	Number of cars written off	Records
6	Insurer takes car to another workshop	Number of cars taken away	Records
7	Customer / Insurer agrees to quotation	Number of cars repaired	Records
8	Deposit paid	Amount of deposit paid	Records
9	Workshop sources spares	Number and amount of of spares bought	Records
10	Car is repaired	Number of cars successfully repaired	Records
11	Workshop receives payment	Amount paid	Records
12	Car is delivered	Number of cars delivered	Records
13	Impressed customer	Number of customers	Records
14	Customer tell others	Number of referred customers	Records
15	Customer not impressed with repair or service	Number of complaints	Records
16	Customers who do not tell others	Survey exercise	Survey results